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Docket No.: P/61149

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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January 5, 2004
(date) Lori G. Witkin

In re: Application of	:	Ghani Abdul Muttalib ABBAS	
Serial No.	:	09/144,782	Group Art Unit: 2666
Filed	:	September 1, 1998	Examiner: D. T. Ton
For	:	DATA TRANSMISSION IN AN SDH NETWORK	

New York, New York
January 5, 2004

RESPONSE UNDER C.F.R. SECTION 1.116 --
EXPEDITED PROCEDURE

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Official Action dated October 3, 2003, reconsideration of the outstanding rejections is respectfully requested in view of the remarks beginning on page 2 of this Response.

The Examiner objected at Section 1 of the Office Action that the invention of claim 80 is known from the following parts of ITU-T G.707 of 03/96: Sections 3.3, 3.7, 3.10, 8.1.7.1, 8.3.8, 9.3.1.6, 10.2, 10.2.1 and 10.2.3 and Figs. 8-8, 8-13, 8-14 and 10-19.

With one exception, these parts of G.707 describe only the *contiguously* concatenated structures of the prior art. The Examiner seems to be confusing the contiguously concatenated structures described in the above parts of G.707 with the *virtually* concatenated structure of the present invention. In particular, the Examiner states that, in G.707, the acronym C-4-Xc refers to contiguous concatenation and VC-4-Xc refers to virtual concatenation. This is *not* the case: both C-4-Xc and VC-4-Xc are contiguous structures. C-4-Xc refers to a contiguously concatenated Container while VC-4-Xc refers to a contiguously concatenated Virtual Container. The Examiner is referred to the definition of "VC" at Section 3.3 at page 3 of G.707.

By way of exception, both virtual and contiguous concatenated structures are referred to in Section 10.2.3 and Fig. 10-19. However, no information is given here or elsewhere in G.707 as to how virtual concatenation is achieved. The Examiner is referred to Section 8.1.7.2 at page 43 of G.707 where the skilled reader would learn that the details of virtual concatenation are under study, i.e., not yet determined.

In Section 5 of the Office Action, the Examiner puts forward a response to the applicant's arguments filed in the previous response (filed July 21, 2003). It is respectfully submitted that, for the reasons set out above, the parts of G.707 used here by the Examiner do not disclose virtually concatenated structures. Again, the one exception is G.707 Section 10.2.3 that does not disclose the virtually concatenated structure of claim 80 as also discussed above.

For the avoidance of doubt, the following claim 80 limitation is *not* taught by the reference: *the use of a part of the POH of a virtually concatenated structure to indicate a sequence of frames in the virtually concatenated structure.*

Concerning the H4 byte, the Examiner considers Section 8.3.8 and Figs. 8-13 and 8-14 of G.707.

Section 8.3.8 and Figs. 8-13 and 8-14 describe use of the H4 byte for multiframe indication in lower order TUs (i.e., tributary units). This has nothing to do with concatenation. A TU comprises a virtual container and a pointer. In lower order virtual containers (LO VC), the capacity allocated to the POH is too small to carry all the information required. To cope with this, the POH of a single LO VC is distributed over the single VC in four successive frames. The four successive frames are referred to as a multiframe. The H4 byte is conventionally used to indicate the first frame of a multiframe and that is what is being described here. Figs. 8-13 and 8-14/G.707 illustrate this.

The important distinction between a multiframe and concatenation of any kind is that a multiframe relates to a single VC, whereas concatenation relates to a plurality of VCs sharing a payload. This distinction is obvious when one considers that the multiframed VC can only carry the conventional payload for that VC, whereas concatenated VCs have the advantage of carrying a payload larger than that of a single VC. The Examiner is referred to the definition of "concatenation" at Section 3.9 at page 5 of G.707.

To put it another way, the multiframe is concerned with the problem of insufficient overhead capacity in the relatively small LO VCs. Concatenation is concerned with the problem of carrying signals with a bandwidth greater than that of the largest available VC.

Conventional, contiguously concatenated structures described in G.707 use the TU pointer to achieve concatenation. This has a number of disadvantages, including the need to process the pointer at every stage along a path. The novel virtual concatenation solution provided by the invention of claim 80 and corresponding claims advantageously achieves concatenation using the path overhead that is only processed at the termination of the path, i.e., at the destination. As a result, the virtually concatenated structures of the present invention can be carried by the large installed SONET and SDH infrastructure without the modifications at intermediate nodes required to support contiguously concatenated structures.

Allowance of all claims is respectfully requested.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

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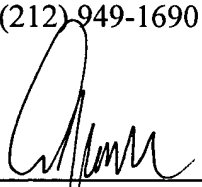

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